

In the Considerations of my first and second Propositions, the *Animadversor* hath rendred my Doctrine of *Un-equal Refrangibility* very imperfect and maimed, by explicating it wholly by the Splitting of rays; whereas I chiefly intended it in those Refractions that are perform'd without that suppos'd Irregularity; such as the *Experimentum Crucis* might have inform'd him of. And, in general I find, that, whilst he hath endeavour'd to explicate my Propositions *Hypothetically*, the more material suggestions, by which I design'd to recommend them, have escap'd his consideration; such as are, The Unchangeableness of the degree of Refrangibility peculiar to any sort of rays; the strict Analogy between the degrees of Refrangibility and Colours; the Distinction between compounded and un-compounded colours; the Unchangeableness of un-compounded colours; and the Assertion, that if any one of the Prismatic colours be wholly intercepted, that colour cannot be new produced out of the remaining Light by any further Refraction or Reflexion whatsoever. And of what strength and efficacy these Particulars are for enforcing the *Theory*, I desire therefore may be now consider'd.

12. Some particulars recommended to further consideration.

#### An Account of two Books.

I. *Otonis de Guericke EXPERIMENTA NOVA MAGDEBURGICA, de VACUO SPATIO, &c.* Amstelodami A. 1672. in fol.

After that the famous Author of this Book hath made a Narrative of the chief *Hypotheses* and Opinions of both Antient and Recent Astronomers concerning the Systeme of the world, and represented the great difficulties in the *Ptolemaique* and *Tychonique*, and repeated the Answers to the Objections against the *Copernican*; he at large gives us his own Thoughts of the Frame and Constitution of the *World*; By which *World* he understands in this Treatise the Complex of the Planets, dispos'd and order'd much after the *Copernican* way; the *Sun* being seated in the midst, having his Spots about him, and moving and influencing all the rest of the Planets according to their severall distances from him; *Saturn* making the utmost of all the Planets, and the End of this his World being there, where the diffusive power and vertue of the Sun; the King and Governor of them all, terminates; which bounds he conjectures to extend themselves, beyond *Saturn*, to those Fixt Stars that are of the nearer rank to *Saturns* Orbe.

Concerning the Bodies lodged in these Planets, he thinks it consonant to the Power and Wisdom of the Great Creator, that there should be such a variety of them, as to stock each of the said Planets,

with

with creatures differing from those of others: so that nothing of what is in (e. g.) our Earth or Terr-aqueous Globe, is to be found in any of the other Planets, but that every one of them is stored with peculiar creatures, and even with such reasonable ones, as are of another kind from the Men of our Earth.

As to the *Space* that is between those his Mundan Bodies (the Planets,) he conceives it to be not any thing Material or Corporeal, but a *Meer Space* void of all body, which *Space* he defines to be as 'twere the Universal Vessel containing all Bodies; declaring herein his dissent from *Des. Cartes*, in whose opinion *Space* or Extension cannot be without an extended substance: whereas he (our Author) makes *Space* indifferent to the being or not being filled with bodies.

Treating of this *Space*, which he calls *Void*, and esteems so in its own nature, he maketh it Immense and Infinite: And discussing that so much agitated Question, whether there be a *Vacuum*, he concludes it in the Affirmative, asserting, that not only all those parts of his *Space*, to which the Effluvia or Expirations of his World do not reach, are void of all body, but also, that so much of Water, Air, or any other thing as is exhausted out of vessels, no other body succeeding in its room, so much there is of Vacuity there. To prove which latter, he repeateth in this volume many of those Experiments of his, which the Learn'd *Schottus* had publish't before: adding some others, together with some improvements of his Engin; which was also described by the said *Schottus*, and in which two very considerable things were deficient, as is observ'd by Mr. *Boyle*, the Noble Author of the *New Experiments Physico-Mechanical touching the Air*, p. 6, 7. in the first *English Edition*, printed A. 1660. at *Oxford*, and enrich't since, by the same, with a *Continuation of New Experiments touching the Spring and Weight of the Air, and their effects*, printed A. 1669. in the same place: Which two Treatises being compar'd with what hath been heretofore publish't by the aforesaid *Schottus*, and now by this Author, it will easily appear to sagacious and impartial Readers, to which of these two Gentlemen, Mr. *Boyle* and *Monf. De Gericke*, the Curious are most obliged, there having been at first but six experiments made by the latter of them, publish't by *Schottus*, in *Arte Hydraulico-pneumatica*, about A. 1656, which afterwards were called *Antiqua* by the same, in his *Technica Curiosa*, printed A. 1662; in which are also recorded the other Experiments, call'd *Experimenta Magdeburgica Nova*, two years after Mr. *Boyles* lately mention'd first Book; the *Continuation* of which hath been abroad three years before this of *de Gericke* himself, now under consideration.

Concerning our Authors Contrivance of his *Virunculus* or little Man, made to indicate the Weight of the Air at any time, and to foretell Wind and Weather; since he thinks fit to make a secret of it, we must let him enjoy it alone, till he shall think good to disclose it.

But

But touching his Experiment of a New and before never used *Wind-gun*, (as he calls it) whereby, contrary to the common *Wind-guns*, in which by store of well-compress'd Air, Bullets may be shot, he teacheth, that by evacuating and weakning the Air, the like effect may be produced; as to this, I say, the Reader will find the same Principle made use of by Mr. *Boyle* in his lately-mention'd *Continuation*, the fourth Experiment about a *New Hydraulico-pneumatical Fountain*, made by the Spring of un-compress'd Air.

As to the Experiment related by this Author *l. 3. c. 7.* of making Water fall in *vacuo*, with such a noise, as if it were a hard substance, it appears by the *Journal* of the *R. Society*, that such an one was made before that Illustrious company by Mr. *Boyle* some years ago.

For a conclusion of this Account, I shall take notice of an Experiment, mention'd by our Author, *l. 5. c. 15*; by which he thinks may be represented the chief Vertues, he enumerates of our Earth, perform'd by a Globe of Sulphur melted and cooled again, and then perforated, to traject an Iron *axis* through it for circumvolution; whereby, attrition being used withal, he affirms that the Impulsive, Attractive, Expulsive, and other vertues of the Earth, as he calls them, may be ocularly exhibited. How far this Globe and its performance may be confided in, the Tryals and Considerations of some Ingenious persons here may perhaps inform us hereafter.

II, *Thesaurus MEDICINÆ PRACTICÆ; Studio & operâ Thomæ Burnet Scoto-Britanni, M. D. & Medici Regis Ordinarii: Londini impensis R. Boulter apud insignem Capitis Turcæ in vico dicto Cornhill, 1672. in 4o.*

**T**HIS Learn'd and Industrious Author, having considered the several abilities of Physicians, and the different ways of their writings respectively; some delivering Medical Institutions and Controversies; some commenting upon *Hippocrates* and *Galen*; others publishing Methods of Curing Diseases and Practical Physicks; others augmenting the Medical matter, and teaching the way of Preparing Medicines; many improving Anatomy; and not a few recording Observations and Consultations: Having, I say, considered this variety and diversity, he prefers the last way of all as appearing to him most usefuf to Mankind; and therefore undertaketh in this Work of his to give us a Treasure of Practical Physick, collected from the Observations and Advices of a great number of Physical Writers, both Ancient and Modern, such as he esteemed to be most considerable of that profession. In the doing of which, he enumerates in an *Alphabetical* order about 410 kinds of Diseases of humane Bodies, partly inward, partly outward; describing their nature and symptoms, and declaring withal the ways of cure, as they are

to be met with in those many Authors, he affirms to have carefully consulted : Of which there are by him alledged no less than 117.

Amongst all these Chapters of *Diseases* and their Cures there are interspersed many not common Observations of Nature, such as are: *That* the force of *Castoreum* is such, *That* about the Isles of *Fero*, the Fishermen, when their Boats are endangered by Whales, throw some of that substance into the Sea-water, which being beaten with it, the Fish immediately sinks to the bottom: *That* Vinegar may be preserv'd from all worms, by mixing a little Theriac therewith, and so exposing it in a close vessel to the Sun for a moneth, daily shaking it, and afterwards percolating it when settled : *That* there are men, that ruminate properly speaking, like Beasts that chew the Cud, and that some of such persons when opened after death, have either their *asophagus* every where fleshy like a Muscle, or their stomach very rough and large ; Where 'tis also observed, that one of such ruminating men, did not at all chew the cud when sick, just like Oxen and Cows, that are said by country-people to do so neither, when they are not well: *That* a certain Sea-man, that had lived long at Sea, and contracted from a continual defluxion a Cough, which exercised his Lungs for two years, did at length cast out, together with blood, two considerable ramifications of veins, separate from all parenchymatous matter, shewing the corruption of the whole substance of the Lungs : *That* it hath been observed to be dangerous, to have a vein opened at once in both arms, or leggs, which is here called a *Neronian Venæ-section*, &c.

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Errata to be corrected in Numb. 87.

Pag. 5067. l. penult. Tractatu. p. 5058. l. 43. Demonstratas. p. 5069 l. 10. non in AX. p. 5070. l. 23. particularem vel defensionem. *ibid.* l. 35. pro 2PQL leg. -2PQL. *ib.* lin. 29. ad margin. lege, Vide Tab. II. Fig. III. p. 5071. l. 16. est media. *ibid.* l. 31 pro 1L Vc $\frac{1}{2}$  leg. 1-Vc $\frac{1}{2}$ . p. 5072. l. 35. pro  $\frac{4}{100000}$ , l.  $\frac{4}{100000}$ , p. 5073. l. 18. pro quid. l. quin. p. 5074. l. 23. 27. &c. pro  $\sigma$  T, l. 6T. *ibid.* l. 23. pro  $\sigma$  2, l. S2. *ibid.* l. 31. pro  $\frac{1}{36}$  D $\frac{3}{4}$  l.  $\frac{1}{36}$  D $\frac{3}{4}$  p. 5075. l. 2. pro  $\frac{1}{4}$  LD $\frac{3}{4}$ ,  $\frac{1}{4}$  LD $\frac{2}{4}$  *ib.* l. 29. l. It. pro idem. *ib.* l. 39. Hyperbola sit Scalena.

Errata in this Numb. 88.

Pag. 5087. l. 7. r. *Boaies*. p. 5094. l. 34. r. *it must.* p. 5097. l. 9. r: and made to divaricate.

LONDON,

Printed for John Martyn, Printer to the Royal Society, 1672.